SYLLABUS

Climate Academy (ALC 3193)

Pre-course Preparation: January 24 – February 5, 2014

Course Timeline: February 6 – June 11, 2014

Final Project Due: July 11, 2014

DESCRIPTION

Natural resource managers are tasked with understanding climate change impacts and using this knowledge in making decisions. This 5-month online course is designed to cover the fundamentals of climate science, provide tools and resources for climate adaptation, increase climate literacy and communication, and provide guidance for maintaining literacy using shared online resources. The course will include two primary webinar lectures with discussion each month, reading assignments, online discussions, access to additional online resources, and participants are asked to complete a final project or report at the conclusion of the course. This course will complement other ongoing webinars and assist participants in navigating and prioritizing their use of existing online resources for understanding climate change. The course is designed to encourage networking among conservation professionals and increase collaboration on landscape-level climate change response planning. Registered course participants will receive a Certificate of Completion from the U.S. Fish and Wildlife Service National Conservation Training Center (NCTC) and can receive Continuing Education Credits (CEUs) offered through The Wildlife Society (TWS).

The course will be offered as webinar series with additional reading and resources posted on the online class webpage, Moodle. Course participants are expected to complete all 5-months in order to receive the minimum credit hours. All webinars will be recorded and posted online for review and for excused absences. Each session will open with a 45- 60 minute lecture via webinar by a leading scientist/manager in a specified topic. The lecture will be followed by an additional 30-45 minute discussion via the conference line. Course participants are expected to also participate in an online discussion board and/or smaller group discussion to receive full credit. Course participants will also be asked to develop a final written report addressing climate change in their management of natural resources.

This course is based on feedback from National Conservation Training Center's (NCTC) instructor-led "Resource Management Implication for Global Climate Change" course, the Florida Fish and Wildlife Conservation Commission's Climate Change Certification program, and ongoing climate change webinars. The course is developed in partnership with staff from the USFWS's NCTC, The Wildlife Society (TWS), the Association of Fish and Wildlife Agencies (AFWA), the National Park Service (NPS), and the California Department of Fish and Wildlife (CDFW).

AUDIENCE

State and federal natural resource managers and conservation professionals

GOALS

At the end of this course, you will be able to:

- Explain the scientific basis of climate change
- Understand biological impacts of climate change
- Recognize decision frameworks for addressing uncertainty
- Identify principles of adaptation planning and examples of adaptation action
- Effectively communicate climate change impacts to peers and the public
- Discuss policy implications of climate change impacts on natural resources
- Engage with stakeholders and co-workers in planning for climate change

ACCESS AND REQUIREMENTS

Accessibility

- You will need internet access (high-speed connections are recommended) and a telephone or computer speakers to participate live in the monthly webinar/lectures
- You will also need a computer with internet access to view archived sessions, to download pre-course reading materials, and to participate in online discussions.
- Recordings of all webinars/lectures will be close-captioned (if a request is made) and posted to the class website, Moodle.
- To receive TWS credit, registered participants must dedicate a minimum of **8 hours each month** to participate in lectures, discussions, and complete reading assignments

Course Requirements

Course participants are expected to attend each webinar lecture and discussion (or view the recording if absence cannot be avoided and is excused), complete the primary readings, and participate in the discussions during the live question and answer period following the webinar lecture. Course participants are also expected to actively participate on the online discussion board. Links for all reading, resources and webinar selections will be made available for each module/topic on the course website platform, Moodle. Participants will be asked to complete a final written report addressing climate change in their management of natural resources.

Breakdown of Monthly Tasks for Course Participants [approximate time]

- Participate in both webinar lectures [3 hrs]
- Complete both primary readings and provide key discussion points on Moodle [2 hrs]
- Participate in discussions in small groups and on the discussion board in Moodle [2-3 hrs]
- 3 posts per module/topic:
    - 1 post on primary assignment due no later than the 48 hrs prior to the webinar
    - 1 initial post after the webinar due no later than 48 hrs after the webinar
    - 1 follow –up post on another participants post due no later than 1 week after the webinar.

Example of acceptable post is: "After completing the Primary Reading, I expected a webinar about methods for determining the current status of species extinctions relative to patterns over geological time. I think I was hoping for some clarification that would help me explain how we "know what we know" to people who fall into the second category Dr. Root mentioned during her video: those who don't quite get climate science but are open to listening and learning. That said, I definitely wasn't disappointed with the video. I certainly appreciated the straightforward Hierarchy of Actions as well as the clear examples of animals adapting or not adapting. These concepts will be useful to teach kids and adults about the effects of climate change AND things we can do to minimize disruptions to natural systems while improving our efforts to monitor changes over time. I'm happy to see the public conversation shifting from *Is climate change happening?* to *What might happen, and what can we do?* In case anyone is interested in Project BudBurst (one of the citizen-science phenology monitoring programs I mentioned in the Chat), more information is available at http://neoninc.org/budburst/." - Deb Groebner (USFWS)

- Complete either a secondary reading or participate in a secondary webinar if assigned[0-2 hr]

Registration for course participants will open ***November 15, 2013 - January 15, 2014.***
********Please note additional application required as described in DOI Learn.********

REGISTRATION INFORMATION

Course Participants

To receive credit for this course through USFWS NCTC and to be eligible for up to 40 Continuing Education Credits through TWS, please follow the instructions below to register through DOI Learn:
Department of Interior (DOI) Employees and **those with a DOI Learn account** (and have taken a course through DOI before):
Please register through DOI Learn https://gm2.geolearning.com/geonext/doi/login.geo

1. Log in with username and password
2. (Only if you are a supervisor) Change role in dropdown tab (top right corner of screen) to "Learner"
3. Under the "Home" tab, click on "Search the Catalog, Register for a Course"
4. Click on "Click here to continue to the Catalog"
5. In the search field, type the title of the course "Climate Academy" and click "Go"
6. Click on the course and then click "Details"
7. Click on "Enroll"
8. Follow the steps to complete your request

Non DOI Participants: Please register using the following link. It is **ESSENTIAL** to add the *course name "Climate Academy"* in the "Add Reason" box. If you do not, your request will be delayed and possibly denied. https://gm2.geolearning.com/geonext/doi/requestaccount.geo. Once you have an account, please follow the instructions above for those with a DOI Learn account.
Registration for course participants will open November 15, 2013 - January 15, 2014
********Please note additional application required as described in DOI Learn.********

All Participants

All course participants will receive calendar reminders for the scheduled webinars through g-mail.

TUITION AND CREDIT

There is no tuition for FWS, NPS, or BLM. For all others, **Tuition will be $200.00**: This will include access to all online materials, access to Moodle for course materials and Adobe Connect for access to the webinars, 10 live webinars followed by a live question and answer session with the presenter.

All course participants who complete the entire course will receive a Certificate of Completion from the U.S. Fish and Wildlife Service National Conservation Training Center (NCTC). Up to 40 credit Continuing Education Credits (CEUs) are available through The Wildlife Society for course participants. Information on how to apply for these credits will be available on the class website, Moodle. There is no cost associated with applying for the CEUs.

- 1 credit per webinar (10 credits possible)
- 1 credit per primary assignment (10 credits possible)
- 1 credit per secondary assignments (TBD)
- 10 credits for a final written report (to be presented to class)

CONTACT INFORMATION

Course Content/Topic Questions
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National Conservation Training Center
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Registration Questions
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COURSE SCHEDULE

January 27, 2014 – February 6 - Pre-course Reading and Preparation

Update individual learning about climate change processes and impacts. Go through Moodle and Adobe Connect tutorials. Develop understanding of basic terms used by natural resource managers to describe climate change. Check Moodle for first module assignment.

February 6, 2014 (2:00-3:30pm Eastern)
Basic Climate Science – Dr. Peter Griffith (NASA)

This session will provide basic understanding of climate science, including the Earth's energy budget and the carbon cycle.

February 19, 2013 (2:00-3:30pm Eastern)
Climate Projections - Dr. Amy Daniels (Forest Service) and Dr. Virginia Burkett (USGS)

This session will provide updated information on the current status of the rapidly-evolving science used for climate assessments and downscaling models.

March 5, 2014 (2:00-3:30pm Eastern)
Biological Impacts and Responses – Dr. Terry Root (Stanford University) and **Dr. Jean Brennan (U.S. FWS LCC)**

This session will go over current and projected impacts of climate change on biological systems.

March 20, 2014 (2:00-3:30pm Eastern)

Climate Change Vulnerability Assessment and Scenario Planning – Patty Glick (National Wildlife Federation) and ***Dr. Erika Rowland (Wildlife Conservation Society)***

This session will provide an overview of Climate Change Vulnerability Assessments and Scenario Planning for use in planning adaptation actions.

April 2, 2014 (2:00-3:30pm Eastern)

Climate Smart Conservation and Adaptation Planning – Dr. Bruce Stein (National Wildlife Federation) and Steve Handler (Forest Service)

This session will explore the fundamentals of adaptation planning for natural resources including the Climate Smart Conservation Cycle as well as what that looks like on the ground.

April 16, 2014 (2:00-3:30pm Eastern)

Adaptation Action (Aquatic) – Dr. Dan Issac (Forest Service) and Pete Jacobson (Minnesota State)

This session will explore how science and management interests can align to inform targeted management action for a species or resource in aquatic environments.

April 30, 2014 (2:00-3:30pm Eastern)

Adaptation Action (Terrestrial) – Dr. Steve Jackson (USGS) and Dr. Chris Hoving (Michigan DNR)

This session will explore how science and management interests can align to inform targeted management action for a species or resource in terrestrial environments.

***May 14, 2014 (2:00-3:30pm Eastern) or May 13 (2:00 – 3:30pm Eastern)**

Adaptation Action (Marine) – TBD and Bob Glazer (Florida)

This session will explore how science and management interests can align to inform targeted management action for a species or resource in marine environments.

May 28, 2014 (2:00-3:30pm Eastern)

Communication – Susan Hassol (Private sector) and Angie Richman (National Park Service)

This session will describe some methods of communicating climate change and how to overcome some of the challenges faced when communicating with partners, stakeholders, and the public.

June 11, 2014 (2:00 – 3:30 PM Eastern)

What Next? – Panel of state and federal speakers

This session will explore the integration of climate adaptation into agency operations as a mechanism for institutional change.

July 11, 2014 (5:00pm Eastern)

Final Project Due to Ashley_Fortune_Isham@fws.gov

Additional information will be given throughout the duration of the course.